

AMENDMENTS TO THE CLAIMS

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1. (Currently amended) An image processing method comprising:
~~noise detection step of performing noise detection on to an image;~~
~~noise removal step of removing noise from a predetermined region of the image, on the basis~~
of the result of the noise detection;
~~arithmetic step of obtaining the ratio of an area targeted for noise removal to the~~
predetermined region of the image, on the basis of the result of the noise detection; ~~and~~
~~image generation step of generating an image indicating the ratio, on the basis of the ratio~~
obtained in ~~the arithmetic step~~; said obtaining the ratio; and
superimposing the image generated in said generating an image on the image before being
subjected to noise removal in said removing noise or on the image from which noise has been
removed, to generate a composite image for display.

2. (Currently amended) An image processing method comprising:
~~noise detection step of performing noise detection on to an image;~~
~~noise removal step of removing noise from a predetermined region of the image, on the basis~~
of the result of the noise detection;
~~arithmetic step of obtaining the ratio of an area targeted for noise removal to the~~
predetermined region of the image, from the result of the noise detection;
~~statistics calculation step of obtaining the statistics on the ratios obtained in the arithmetic~~
step said obtaining the ratio over a predetermined period of time;
~~image generation step of generating an image indicating the statistics, on the basis of the~~
statistics obtained in ~~the statistics calculation step~~ said obtaining the statistics; and
~~image composition step of superimposing the image generated in the said generating an~~
image ~~generation step~~ on the image before being subjected to noise removal in said removing the
~~noise removal step~~ or on the image from which noise has been removed, to generate a composite
image for display.

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3. **(Currently amended)** An image processing method comprising:
~~noise detection step of detecting the position and intensity of noise in an image;~~
~~noise removal step of removing noise from a predetermined region of the image, on the basis~~
~~of the position and intensity of noise detected in the noise detection step~~ said detecting;
~~arithmetic step of obtaining, for each intensity level of noise, the ratio of an area targeted for~~
~~noise removal to the predetermined region of the image, on the basis of the position and intensity~~
~~of noise detected in the noise detection step~~ said detecting; and
~~image generation step of generating an image indicating the ratio for each intensity level of~~
~~noise, on the basis of the ratio obtained in the arithmetic step;~~ said obtaining; and
superimposing the image generated in said generating on the image before being subjected
to noise removal in said removing noise or on the image from which noise has been removed, to
generate a composite image for display.

4. **(Currently amended)** An image processing method comprising:
~~noise detection step of performing detection of position and intensity of noise, on to an~~
~~image;~~
~~noise removal step of removing noise from a predetermined region of the image, on the basis~~
~~of the position and intensity of noise detected in the noise detection step~~ said performing;
~~arithmetic step of obtaining, for each intensity level of noise, the ratio of an area targeted for~~
~~noise removal to the predetermined region of the image, on the basis of the position and intensity~~
~~of noise, detected in the noise detection step~~ said performing;
~~statistics calculation step of obtaining, for each intensity level of noise, the statistics on the~~
~~ratios obtained in the arithmetic step~~ said obtaining the ratio over a predetermined period of time;
~~image generation step of generating an image indicating the statistics, for each intensity level~~
~~of noise on the basis of the statistics obtained in the said obtaining the statistics calculation step;~~ and
~~image composition step of superimposing the image generated in the image generation step~~
said generating an image on the image before being subjected to noise removal in the said removing

noise removal step or on the image from which noise has been removed, to generate a composite image for display.

5. **(Currently amended)** An image processing method comprising:
~~noise detection step of detecting the position and intensity of noise in an image;~~
~~noise removal step of removing noise from the image, on the basis of the position and intensity of noise detected in the noise detection step~~ said detecting;
~~image generation step of generating an image indicating pixels included in an area of the image targeted for noise removal, using a predetermined color according to the intensity of noise, on the basis of the position and intensity of noise detected in the noise detection step~~ said detecting;
and
~~image composition step of superimposing the image generated in the image generation step~~ said generating an image on the image before being subjected to noise removal in ~~the~~ said removing noise removal step or on the image from which noise has been removed, to generate a composite image for display.

6. **(Currently amended)** An image processing method comprising:
~~noise detection step of detecting noise in an image;~~
~~noise removal step of removing noise from the image on the basis of the result of the~~ said detecting noise ~~detection~~; and
~~image composition step of spatially combining a part of the image before being subjected to noise removal in the said removing noise removal step with and a part of the image from which noise has been removed~~ (so as to display the same on the screen, respectively, to) generate a composite image for display.

7. **(Currently amended)** An image processing method as defined in Claim 5, wherein the intensity of the noise detected in ~~the noise detection step~~ said detecting is only one, and the color of the image generated in ~~the image generation step~~ said generating is only one.

8. **(Currently amended)** An image processing method as defined in Claim 6, wherein ~~the image composition step~~ said spatially combining comprises cutting partial images of the same region from the image before being subjected to noise removal in ~~the said removing noise removal step~~ and the image from which noise has been removed, respectively, and generating an image in which the partial images are arranged vertically or horizontally.

9. **(Currently amended)** An image processing method as defined in Claim 1 further comprising:

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~~image decoding step of decoding an image code sequence to generate a decoded image;~~
~~said noise detection step of performing noise detection using information included in the image code sequence; and~~
~~said noise removal step of removing noise from the decoded image obtained in the image said decoding step, on the basis of the result of the noise detection.~~

10. **(Currently amended)** An image processing method as defined in Claim 1, wherein ~~said the~~ noise is one of blocking artifact and ringing artifact.

11. **(Currently amended)** An image processing method as defined in Claim 1, wherein the predetermined region to be subjected to noise removal in ~~the said removing noise removal step~~ is an assembly of pixels in the vicinity of a boundary of each block.

12. **(Currently amended)** An image processing apparatus comprising:
noise detection means for performing noise detection ~~on~~ to an input image;
noise removal means for removing noise from a predetermined region of the input image, on the basis of the result of the noise detection;
arithmetic means for obtaining the ratio of an area targeted for noise removal to the predetermined region of the input image, on the basis of the result of the noise detection; ~~and~~

image generation means for generating an image indicating the ratio, on the basis of the ratio obtained by the arithmetic ~~means~~; means; and

image composition means for superimposing the image generated by the image generation means on the image before being subjected to noise removal by the noise removal means or on the image from which noise has been removed, to generate a composite image for display.

13. **(Currently amended)** An image processing apparatus comprising:

noise detection means for performing noise detection ~~on~~ to an input image;

noise removal means for removing noise from a predetermined region of the input image, on the basis of the result of the noise detection;

arithmetic means for obtaining the ratio of an area targeted for noise removal to the predetermined region of the input image, from the result of the noise detection;

statistics calculation means for obtaining the statistics on the ratios obtained by the arithmetic means over a predetermined period of time;

image generation means for generating an image indicating the statistics, on the basis of the statistics obtained by the statistics calculation means; and

image composition means for superimposing the image generated by the image generation means on the image before being subjected to noise removal by the noise removal means or on the image from which noise has been removed, to generate a composite image for display.

14. **(Currently amended)** An image processing apparatus comprising:

noise detection means for performing detection of position and intensity of noise, ~~on~~ to an input image;

noise removal means for removing noise from a predetermined region of the input image, on the basis of the position and intensity of noise detected by the noise detection means;

arithmetic means for obtaining, for each intensity level of noise, the ratio of an area targeted for noise removal to the predetermined region of the input image, on the basis of the position and intensity of noise detected by the noise detection means; and

image generation means for generating an image indicating the ratio for each intensity level of noise, on the basis of the ratio obtained by the arithmetic ~~means~~; means; and

image composition means for superimposing the image generated by the image generation means on the image before being subjected to noise removal by the noise removal means or on the image from which noise has been removed, to generate a composite image for display.

15. **(Currently amended)** An image processing apparatus comprising:

noise detection means for performing detection of position and intensity of noise, ~~on~~ to an input image;

noise removal means for removing noise from a predetermined region of the input image, on the basis of the position and intensity of noise detected by the noise detection means;

arithmetic means for obtaining, for each intensity level of noise, the ratio of an area targeted for noise removal to the predetermined region of the input image, on the basis of the position and intensity of noise detected by the noise detection means;

statistics calculation means for obtaining, for each intensity level of noise, the statistics on the ratios obtained by the arithmetic means over a predetermined period of time;

image generation means for generating an image indicating the statistics, for each intensity level of noise, on the basis of the statistics obtained by the statistics calculation means; and

image composition means for superimposing the image generated by the image generation means on the image before being subjected to noise removal by the noise removal means or on the image from which noise has been removed, to generate a composite image for display.

16. **(Currently amended)** An image processing apparatus comprising:

noise detection means for performing detection of position and intensity of noise, ~~on~~ to an input image;

noise removal means for removing noise from the input image, on the basis of the position and intensity of noise detected by the noise detection means;

image generation means for generating an image indicating pixels included in an area of the input image targeted for noise removal, using a predetermined color according to the intensity of noise, on the basis of the position and intensity of noise detected by the noise detection means; and

image composition means for superimposing the image generated by the image generation means on the image before being subjected to noise removal by the noise removal means or on the image from which noise has been removed, to generate a composite image for display.

17. **(Currently amended)** An image processing apparatus comprising:

noise detection means for performing noise detection ~~on~~ to an input image;

noise removal means for removing noise from the input image on the basis of the result of the noise detection; and

image composition means for receiving the input image and the output image from the noise removal means, and spatially combining a part of the input image with a part of the output image from the noise removal means so as to display the same on the screen, to generate a composite image to be output.

18. **(Original)** An image processing apparatus as defined in Claim 16, wherein the intensity of the noise detected by the noise detection means is only one, and the color of the image generated by the image generation means is only one.

19. **(Original)** An image processing apparatus as defined in Claim 17, wherein the image composition means cuts partial images of the same region from the input image and the output image from the noise removal means, respectively, and generates an image in which the partial images are arranged vertically or horizontally.

20. **(Previously presented)** An image processing apparatus as defined in Claim 12 further comprising:

image decoding means for decoding an image code sequence to generate a decoded image;

said noise detection means receiving the image code sequence, and performing noise detection using information included in the image code sequence; and

said noise removal means removing noise from the decoded image outputted from the image decoding means, on the basis of the result of the noise detection.

21. **(Currently amended)** An image processing apparatus as defined in Claim 12, wherein ~~said~~ the noise is one of blocking artifact and ringing artifact.

22. **(Previously presented)** An image processing apparatus as defined in Claim 12; wherein the predetermined region to be subjected to noise removal by the noise removal means is an assembly of pixels in the vicinity of a boundary of each block.

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23. **(Currently amended)** An image processing method as defined in Claim 2 further comprising:

~~image decoding step of decoding an image code sequence to generate a decoded image;~~
~~said noise detection step of performing noise detection using information included in the image code sequence; and~~

~~said noise removal step of removing noise from the decoded image obtained in the image said decoding step,~~ on the basis of the result of the noise detection.

24. **(Currently amended)** An image processing method as defined in Claim 3 further comprising:

~~image decoding step of decoding an image code sequence to generate a decoded image;~~
~~said noise detection step of performing noise detection using information included in the image code sequence; and~~

~~said noise removal step of removing noise from the decoded image obtained in the image said decoding step,~~ on the basis of the result of the noise detection.

25. **(Currently amended)** An image processing method as defined in Claim 4 further comprising:

~~image decoding step of decoding an image code sequence to generate a decoded image;~~
~~said noise detection step of performing noise detection using information included in the~~
image code sequence; and

~~said noise removal step of removing noise from the decoded image obtained in the image said~~
decoding ~~step~~, on the basis of the result of the noise detection.

26. **(Currently amended)** An image processing method as defined in Claim 5 further comprising:

~~image decoding step of decoding an image code sequence to generate a decoded image;~~
~~said noise detection step of performing noise detection using information included in the~~
image code sequence; and

~~said noise removal step of removing noise from the decoded image obtained in the image said~~
decoding ~~step~~, on the basis of the result of the noise detection.

27. **(Currently amended)** An image processing method as defined in Claim 6 further comprising:

~~image decoding step of decoding an image code sequence to generate a decoded image;~~
~~said noise detection step of performing noise detection using information included in the~~
image code sequence; and

~~said noise removal step of removing noise from the decoded image obtained in the image said~~
decoding ~~step~~, on the basis of the result of the noise detection.

28. **(Currently amended)** An image processing method as defined in Claim 2, wherein said
the noise is one of blocking artifact and ringing artifact.

29. **(Currently amended)** An image processing method as defined in Claim 3, wherein ~~said~~ the noise is one of blocking artifact and ringing artifact.

30. **(Currently amended)** An image processing method as defined in Claim 4, wherein ~~said~~ the noise is one of blocking artifact and ringing artifact.

31. **(Currently amended)** An image processing method as defined in Claim 5, wherein ~~said~~ the noise is one of blocking artifact and ringing artifact.

32. **(Currently amended)** An image processing method as defined in Claim 6, wherein ~~said~~ the noise is one of blocking artifact and ringing artifact.

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33. **(Currently amended)** An image processing method as defined in Claim 2, wherein the predetermined region to be subjected to noise removal in ~~the~~ said removing noise ~~removal step~~ is an assembly of pixels in the vicinity of a boundary of each block.

34. **(Currently amended)** An image processing method as defined in Claim 3, wherein the predetermined region to be subjected to noise removal in ~~the~~ said removing noise ~~removal step~~ is an assembly of pixels in the vicinity of a boundary of each block.

35. **(Currently amended)** An image processing method as defined in Claim 4, wherein the predetermined region to be subjected to noise removal in ~~the~~ said removing noise ~~removal step~~ is an assembly of pixels in the vicinity of a boundary of each block.

36. **(Currently amended)** An image processing method as defined in Claim 5, wherein the predetermined region to be subjected to noise removal in ~~the~~ said removing noise ~~removal step~~ is an assembly of pixels in the vicinity of a boundary of each block.

37. **(Currently amended)** An image processing method as defined in Claim 6, wherein the predetermined region to be subjected to noise removal in ~~the~~ said removing noise removal step is an assembly of pixels in the vicinity of a boundary of each block.

38. **(Previously presented)** An image processing apparatus as defined in Claim 13 further comprising:

image decoding means for decoding an image code sequence to generate a decoded image;

said noise detection means receiving the image code sequence, and performing noise detection using information included in the image code sequence; and

said noise removal means removing noise from the decoded image outputted from the image decoding means, on the basis of the result of the noise detection.

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39. **(Previously presented)** An image processing apparatus as defined in Claim 14 further comprising:

image decoding means for decoding an image code sequence to generate a decoded image;

said noise detection means receiving the image code sequence, and performing noise detection using information included in the image code sequence; and

said noise removal means removing noise from the decoded image outputted from the image decoding means, on the basis of the result of the noise detection.

40. **(Previously presented)** An image processing apparatus as defined in Claim 15 further comprising:

image decoding means for decoding an image code sequence to generate a decoded image;

said noise detection means receiving the image code sequence, and performing noise detection using information included in the image code sequence; and

said noise removal means removing noise from the decoded image outputted from the image decoding means, on the basis of the result of the noise detection.

41. **(Previously presented)** An image processing apparatus as defined in Claim 16 further comprising:

image decoding means for decoding an image code sequence to generate a decoded image;
said noise detection means receiving the image code sequence, and performing noise detection using information included in the image code sequence; and

said noise removal means removing noise from the decoded image outputted from the image decoding means, on the basis of the result of the noise detection.

42. **(Previously presented)** An image processing apparatus as defined in Claim 17 further comprising:

image decoding means for decoding an image code sequence to generate a decoded image;
said noise detection means receiving the image code sequence, and performing noise detection using information included in the image code sequence; and

said noise removal means removing noise from the decoded image outputted from the image decoding means, on the basis of the result of the noise detection.

43. **(Currently amended)** An image processing apparatus as defined in Claim 13, wherein said the noise is one of blocking artifact and ringing artifact.

44. **(Currently amended)** An image processing apparatus as defined in Claim 14, wherein said the noise is one of blocking artifact and ringing artifact.

45. **(Currently amended)** An image processing apparatus as defined in Claim 15, wherein said the noise is one of blocking artifact and ringing artifact.

46. **(Currently amended)** An image processing apparatus as defined in Claim 16, wherein said the noise is one of blocking artifact and ringing artifact.

47. **(Currently amended)** An image processing apparatus as defined in Claim 17, wherein said the noise is one of blocking artifact and ringing artifact.

48. **(Previously presented)** An image processing apparatus as defined in Claim 13, wherein the predetermined region to be subjected to noise removal by the noise removal means is an assembly of pixels in the vicinity of a boundary of each block.

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49. **(Previously presented)** An image processing apparatus as defined in Claim 14, wherein the predetermined region to be subjected to noise removal by the noise removal means is an assembly of pixels in the vicinity of a boundary of each block.

50. **(Previously presented)** An image processing apparatus as defined in Claim 15, wherein the predetermined region to be subjected to noise removal by the noise removal means is an assembly of pixels in the vicinity of a boundary of each block.

51. **(Previously presented)** An image processing apparatus as defined in Claim 16, wherein the predetermined region to be subjected to noise removal by the noise removal means is an assembly of pixels in the vicinity of a boundary of each block.

52. **(Previously presented)** An image processing apparatus as defined in Claim 17, wherein the predetermined region to be subjected to noise removal by the noise removal means is an assembly of pixels in the vicinity of a boundary of each block.
